

What is claimed is:

1. A lipid membrane structure containing an anti-membrane-type matrix metalloproteinase monoclonal antibody.

2. The lipid membrane structure according to claim 1, wherein the monoclonal antibody is present in a lipid membrane, on a surface of lipid membrane, in a internal space of lipid membrane, in a lipid layer, and/or on a surface of lipid layer of the lipid membrane structure.

3. The lipid membrane structure according to claim 1, which comprises the monoclonal antibody as a component of the lipid membrane structure.

4. The lipid membrane structure according to claim 1, wherein the monoclonal antibody binds to a membrane surface of the lipid membrane structure.

5. The lipid membrane structure according to any one of claims 1 to 4, wherein the monoclonal antibody consists of one or more kinds of monoclonal antibodies selected from an anti-MT1-MMP monoclonal antibody, an anti-MT2-MMP monoclonal antibody, an anti-MT3-MMP monoclonal antibody, an anti-MT4-MMP monoclonal antibody, an anti-MT5-MMP monoclonal antibody, and an anti-MT6-MMP monoclonal antibody.

6. The lipid membrane structure according to any one of claims 1 to 5, wherein the monoclonal antibody is a human monoclonal antibody or a mouse monoclonal antibody.

7. The lipid membrane structure according to any one of claims 1 to 6, wherein the monoclonal antibody is a Fab fragment, a F(ab')<sub>2</sub> fragment, or a Fab' fragment.

8. The lipid membrane structure according to any one of claims 1 to 7, which contains a substance for binding the monoclonal antibody to the lipid membrane structure.

9. The lipid membrane structure according to claim 8, wherein the substance for binding the monoclonal antibody to the lipid membrane structure is a lipid derivative that can react with mercapto group in the anti-MT-MMP monoclonal antibody or a fragment thereof.

10. The lipid membrane structure according to any one of claims 1 to 9, which contains a phospholipid and/or a phospholipid derivative as a component of the lipid

membrane structure.

11. The lipid membrane structure according to claim 10, wherein the phospholipid and/or the phospholipid derivative consists of one or more kinds of phospholipids and/or phospholipid derivatives selected from the group consisting of phosphatidylethanolamine, phosphatidylcholine, phosphatidylserine, phosphatidylinositol, phosphatidylglycerol, cardiolipin, sphingomyelin, ceramide phosphorylethanolamine, ceramide phosphorylglycerol, ceramide phosphorylglycerol phosphate, 1,2-dimyristoyl-1,2-deoxyphosphatidylcholine, plasmalogen and phosphatidic acid.

12. The lipid membrane structure according to any one of claims 1 to 11, which further contains a sterol as a component of the lipid membrane structure.

13. The lipid membrane structure according to claim 12, wherein the sterol is cholesterol and/or cholestanol.

14. The lipid membrane structure according to any one of claims 1 to 13, which has a blood retentive function.

15. The lipid membrane structure according to claim 14, which contains a blood retentive lipid derivative as a component of the lipid membrane structure.

16. The lipid membrane structure according to claim 15, wherein the blood retentive lipid derivative is a polyethylene glycol-lipid derivative or a polyglycerin-phospholipid derivative.

17. The lipid membrane structure according to claim 16, wherein the polyethylene glycol-lipid derivative consists of one or more kinds of polyethylene glycol-lipid derivatives selected from the group consisting of N-{carbonyl-methoxypolyethylene glycol-2000}-1,2-dipalmitoyl-sn-glycero-3-phosphoethanolamine, N-{carbonyl-methoxypolyethylene glycol-5000}-1,2-dipalmitoyl-sn-glycero-3-phosphoethanolamine, N-{carbonyl-methoxypolyethylene glycol-750}-1,2-distearoyl-sn-glycero-3-phosphoethanolamine, N-{carbonyl-methoxypolyethylene glycol-2000}-1,2-distearoyl-sn-glycero-3-phosphoethanolamine and N-{carbonyl-methoxypolyethylene glycol-5000}-1,2-distearoyl-sn-glycero-3-phosphoethanolamine.

18. The lipid membrane structure according to any one of claims 1 to 17, which has a temperature change-sensitive function.

19. The lipid membrane structure according to claim 18, which contains a temperature-sensitive lipid derivative as a component in the lipid membrane

structure.

20. The lipid membrane structure according to claim 19, wherein the temperature-sensitive lipid derivative is dipalmitoylphosphatidylcholine.

21. The lipid membrane structure according to any one of claims 1 to 20, which has a pH-sensitive function.

22. The lipid membrane structure according to claim 21, which contains a pH-sensitive lipid derivative as a component of the lipid membrane structure.

23. The lipid membrane structure according to claim 22, wherein the pH-sensitive lipid derivative is dioleoylphosphatidylethanolamine.

24. The lipid membrane structure according to any one of claims 1 to 23, which reacts with a membrane-type matrix metalloproteinase on a tumor cell membrane.

25. The lipid membrane structure according to claim 24, wherein the tumor cell is an MT-MMP expressing cell.

26. The lipid membrane structure according to claim 24 or 25, wherein the tumor cell is a cell of fibrosarcoma, squamous carcinoma, neuroblastoma, breast carcinoma, gastric cancer, hepatoma, bladder cancer, thyroid tumor, urinary tract epithelial cancer, glioblastoma, acute myeloid leukemia, pancreatic duct cancer or prostate cancer.

27. The lipid membrane structure according to any one of claims 1 to 26, which reacts with a membrane-type matrix metalloproteinase of a neoplastic vessel.

28. The lipid membrane structure according to any one of claims 1 to 27, wherein the lipid membrane structure is in the form of micelle, emulsion, liposome or a mixture thereof.

29. The lipid membrane structure according to any one of claims 1 to 28, which is in a form of dispersion in an aqueous solvent, a lyophilized form, a spray-dried form or a frozen form.

30. A pharmaceutical composition comprising the lipid membrane structure according to any one of claims 1 to 29 and a medicinally active ingredient and/or a gene.

31. The pharmaceutical composition according to claim 30, wherein the medicinally active ingredient and/or gene is present in a lipid membrane, on a surface of lipid membrane, in an internal space of lipid membrane, in a lipid layer and/or on a

surface of lipid layer of the lipid membrane structure.

32. The pharmaceutical composition according to claim 30 or 31, which is in a form of a dispersion in an aqueous solvent, a lyophilized form, a spray-dried form, or a frozen form.

33. A method for estimating an amount of monoclonal antibody against an anti-membrane-type matrix metalloproteinase contained in the lipid membrane structure according to any one of claims 1 to 23, wherein a competitive reaction against an antigenic substance caused by both of an enzyme-labeled monoclonal antibody, prepared from the monoclonal antibody against a membrane-type matrix metalloproteinase by a known method, and the lipid membrane structure is detected by an enzyme immunoassay technique.